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in Magdeburg. From the Art-Industry Exhibition in Leipzig 1879.

Plate 73. — Panel Ornaments of Pilasters. Italian Renaissance.

Plate 74. — Pier Table, carved and gilt, style Louis XVI., by Flachat and Cochet in Lyons.

Plate 75. — Mantelpiece-Stove and Fender in repoussé copper by Arens, Metal Worker in Paris.

Plate 76. — Initials by Eisenlohr and Weigle in Stuttgart.

Plate 77. — Earthenware Plate, Rhodian Ware, in the Hotel Cluny in Paris.

VARIOUS.

Pearls in New Zealand.

The Auckland *Evening Star* reports the discovery of pearls in Oakley creek, New Zealand. While passing along the bank of the creek, Mr. Benjamin Gittos, an old resident of the district, observed a peculiar and, to him, new shell fish in the sand. A little search disclosed a large number of them of various sizes. The inner coating of the shell was found to be mother-of-pearl of fine quality, and in several of the larger shells he found loose pearls. The pearls are described as unusual in form and color, not perfectly round, but far more brilliant than ordinary pearls.

The Silvering of Mirrors.

The methods of silvering mirrors, as practiced in Europe, are described as follows by Mr. C. Colné in his report upon glass at the late Paris Exhibition:

Silvered plate glass is produced by causing a slight coating of mercury to adhere to the glass. To obtain this result mercury must be retained by a metallic medium; it is, therefore, amalgamated with tin. Mercury, owing to its power of reflecting light very brightly, has been chosen as the best medium.

The operation of silvering is briefly as follows:

Upon a very smooth stone table a sheet of very thin tin is spread very carefully, so as to prevent all wrinkles. Upon this sheet mercury is rubbed all over, then as much mercury as the sheet will retain is poured over it. The glass plate is now carefully slid over the edge of the stone table, as near as possible to the mercury, and lowered on it. All the parts previous to this operation have been carefully cleaned, and the plate is handled with pieces of tissue paper to prevent the introduction of dirt. The plate is now covered with a cloth and loaded with weights to expel the surplus mercury. When the plate has been so weighted, the table is slightly inclined, and gradually increasing the inclination from time to time, until the mercury has been sufficiently drained; this generally requires twenty-four hours. The plate is now carefully taken up and carried over to an inclined wooden table, which is depressed gradually more and more to finish draining the mercury until the plate is supposed to be dry.

This is the process which has been heretofore followed altogether, but of late plates have been silvered with a dissolution of silver. Mercury has deplorable effects upon the health of workmen, as they are exposed to its dangerous emanations; these are rapidly absorbed by the skin and produce the well known and terrible mercurial poisoning. It is hoped, therefore, that mercury will be abandoned, and the new silvering process described below will be adopted in its place. Several methods have been proposed for silver dissolutions, all springing, however, from the discovery of Liebig, that aldehyde (produced by a partial oxidation of alcohol) when heated with nitrate of silver, the metal revivified, covers the glass over with a brilliant metallic coating. It is not our purpose to trace the different improvements made by Drayton and Pettitjean, but we will briefly indicate the process of the latter, which is now altogether used by the St. Gobain works with perfect success.

The operation is very similar to silvering with mercury. The table, instead of being a stone, is a hollow sheet iron table, made quite smooth on its upper surface, and containing inside water heated by means of steam, to bring the temperature to 95° or 104°. Preparatory to silvering the glass it should be thoroughly cleaned. The table being ready, a piece of oilcloth is spread over it, and upon this is laid a piece of cotton cloth. The plates are now put upon these cloths, and the following solutions are poured over them:

Liquor No. 1. — Dissolve in a liter of water 100 grammes of nitrate of silver; add 62 grammes of liquid ammonia of 0·880 density; filter and dilute with sixteen times its volume of water. Then pour in this liquor 7·5 grammes of tartaric acid dissolved in about 30 grammes of water.

Liquor No. 2. — This liquor is precisely the same as the other, with the exception that the quantity of tartaric acid is doubled, say 15 grammes.

First pour of liquor No. 1 upon the plates as much as will remain upon the surface without running over. The heat of the table is now increased gradually to 95° or 104° Fah., and in about thirty minutes the glass is covered over with a metallic coating. The table is now inclined and the plates washed with water, which carries off the surplus silver. The table is again raised, and liquor No. 2 is now poured over. In about a quarter of an hour another coat is deposited, which covers the glass completely. The plates are again washed; then they are carried to a slightly heated room, where they are gradually dried.

This operation, as will be seen, is quite simple, and is generally performed by women. The silver carried off in washing and that contained in the cloths is recovered again. Since glass silvered by this process is liable to be altered when exposed to the air, and the coating may become easily detached if not covered over with a protecting coat of paint, the silver pellicle is covered with an alcohol copal varnish, put on with a brush, and when this is dry a coat of red lead paint is put on.

Plates silvered by this means have more brilliancy than with mercury, but as there is a slight tinge of yellow given to objects reflected by these mirrors, they were at first objected to. This objection has passed away, however, to a great extent, and the yellow reflection has been obviated by giving a slight coloration to the glass. I have not been able to get positively the relative costs of both processes; it is said, however, that by the new process the cost price is about 36 cents per square meter. Owing to the fact that such works as the St. Gobain have adopted it, and as the terrible disorders caused by mercury have been avoided, there ought to be no hesitation in adopting this new process every where.

Gilding Mouldings.

Messrs. Nicholas C. N. Laurense and Ernest G. Matzka, of Detroit, Mich., have patented a process of applying gilding or bronzing powders to mouldings. It consists first, in mixing the gilding or bronzing powder with a solution of chlorine, alcohol, turpentine, diluted acetic acid, or any liquid compound with which the powder can be incorporated; in then adding thereto glue, isinglass, gelatine, or other soluble adhesive substance, and in next applying the mixture with a brush.

The Furniture Gazette.